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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/053,201

01/15/2002

Harry Rosenberg

(H058-068) 34593 CON.1

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11/20/2002

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EXAMINER

DANG, PHUC T

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/053,201

Applicant(s)

ROSENBERG ET AL.

Examiner

PHUC T DANG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31,32,34-50 and 54-84 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31,32,34-50 and 54-84 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 5-6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Pre-amendment

1. Pre-Amendment filed on January 15, 2001 has been entered and made of record as Paper No. 4.

In Pre-Amendment, applicants cancel claims 1-30 and add new claims 31-53 for examination in Paper No. 4 is acknowledged.

Oath/Declaration

2. The oath/declaration filed on January 15, 2002 is acceptable.

Information Disclosure Statement

3. The office acknowledges receipt of the following items from the applicant:

Information Disclosure Statement (IDS) filed on June 28, 2002 and August 27, 2002.

Specification

4. The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwa et al. (U.S. Patent No. 4,673,554).

Niwa et al. disclose a metallic layer containing 94 % tantalum , 1.2 % iron, 1.1 % nickel, 0.5 % tungsten and 0.1 % chromium (all percents are by weight) [col. 7, lines 39-48].

Niwa et al. disclose all the features of the claimed invention as discussed above, but do not disclose a layer comprising high purity tantalum, less than about 500 ppm, by weight, total metallic impurities, and less than about 50 ppm, by weight, tungsten or molybdenum.

A layer comprising high purity tantalum, less than about 500 ppm, by weight, total metallic impurities, and less than 20 ppm, by weight, tungsten and molybdenum and less than 50 ppm, by weight, niobium is considered to be obvious in variation design of choice, since the amount of impurities would be prepared as desired in the art for a purpose of improving the production of the high purity tantalum.

6. Claims 35-50 and 54-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher (U.S. Patent No. 4,923,531).

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Fisher discloses the metals selected from the group consisting of titanium, zirconium, hafnium, thorium, vanadium, niobium, tantalum, chromium, molybdenum, tungsten and their alloys and containing less than about one weight percent oxygen can be deoxidized by contacting the metal with a mixture of a metallic dioxidant and a metal carrier. [col. 1, lines 55-col. 2, lines 2].

Fisher discloses all the features of the claimed invention as discussed above, but does not disclose a sputtering target blank comprising tantalum, less than 500 ppm by weight (ppmw) total metallic impurities, less than 5 ppmw total of molybdenum and tungsten, less than about 100 ppmw oxygen, and less than 50 ppmw niobium.

A sputtering target blank comprising tantalum, less than 500 ppm by weight (ppmw) total metallic impurities, less than 5 ppmw total of molybdenum and tungsten, less than about 100 ppmw oxygen, and less than 50 ppmw niobium is considered to be obvious in variation design of choice, since the amount of impurities would be prepared as desired in the art for a purpose of improving the production of the high purity tantalum.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuc T. Dang whose telephone number is 703-305-1080. The examiner can normally be reached on 8:00 am-5:00 pm.
8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on 703-308-4910. The fax phone numbers for the organization

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where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-5841 for After Final communications.

9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Phuc T. Dang PD

Examiner

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PHUC T. DANG *Dangphuc*
EXAMINER

November 12, 2002